



CITY OF GERMANTOWN TENNESSEE

1930 South Germantown Road • Germantown, Tennessee 38138-2815
Phone (901) 757-7200 Fax (901) 757-7292 www.germantown-tn.gov

Request for Bids

Date: August 18, 2011

The City of Germantown, Tennessee, will accept Bids on:

TURNOUT CLOTHING

Bid shall be mailed in a **sealed envelope** marked **"TURNOUT CLOTHING"** in the lower left-hand corner of the envelope and addressed to Purchasing Officer, City of Germantown, P. O. Box 38809, Germantown, TN 38138-0809 or, **if using express mail** (Fed Ex, Priority Mail, etc), address to 1930 S. Germantown Rd., Germantown, TN 38138. Please place in a sealed envelope inside the express mail packaging. *(Bid must be received by the City prior to the time indicated below.)* **Please mark envelope with the name of the Bid.**

Bid shall be opened at 1930 S. Germantown Rd at 2:00 p.m. on September 1, 2011.

All purchases are F.O.B. Germantown, Tennessee.

The City reserves the right to accept or reject any Bid, to accept a Bid containing variations from these specifications if the Bid so merits, and to accept partial Bids. Bids must be submitted on the Bid document that the City issues and it must be signed.

The Successful Bidder shall be prohibited from discriminating against any individual due to his race, creed, color, national origin, age or sex.

The City may waive any informalities or minor irregularities. The Board of Mayor and Aldermen is the final authority and shall have the right to reject any single Bid or all Bids submitted.

See attached Specifications and Bid Sheet.

Sincerely,

A handwritten signature in black ink, appearing to read "Lisa A. Piefer".

Lisa A. Piefer
Purchasing Officer

City of Germantown Purchasing Division
1930 S. Germantown Road
Germantown, TN 38138
Phone: (901) 757-7260 Fax: (901) 757-7258

CITY OF GERMANTOWN FIRE FIGHTER TURNOUT CLOTHING SPECIFICATIONS

The City of Germantown is seeking interested vendors to provide fire fighter turnout clothing according to these specifications. The turnout coat and bunker pants will be selected from the same vendor.

A. TURNOUT COAT

1. **SCOPE:** This protective clothing is for conventional structural fire fighting operations where there is a threat of fire or when certain physical hazards are likely to be encountered, such as during non-fire related rescue operations, emergency medical operations and victim extrications. This protective clothing is not proximity or entry gear, and it is not designed for continuous direct contact with flames.

Garments shall meet NFPA Standard 1971, latest edition. All references in these specifications to NFPA 1971 shall be in accordance with the latest edition. All construction, features and fabrics in this specification must meet or exceed the requirements of NFPA Standard 1971, latest edition, OSHA 1910, Subpart L, OSHA 29 CFR Part 1910.1030 and/or Cal-OSHA Title 8, Article 10.1, Paragraph 3406. Such features, fabrics, construction, trim and other details, whether specifically enumerated in this specification or not, are the responsibility of the dealer, agent, manufacturer or other seller. Any implied or direct conflicts between this specification and NFPA 1971, OSHA Subpart L and Cal-OSHA are not the intention of this specification, and will be eliminated by notifying the City of Germantown who will then make necessary alterations to the specifications. All components used in the construction of garments shall be third party tested, certified and listed for compliance to NFPA 1971. All such certifications will be noted with certification labels from the third party testers.

The turnout coat is intended to be worn with the turnout pants described later in these specifications and must be tailored so that the two garments are of compatible design. All personnel issued these items shall be measured by a trained representative from the selected bidder. It will be the responsibility of the selected bidder to provide proper fit for each garment.

It is the City's intention to purchase the turnout coats and pants as either a combined unit or as an individual replacement item for a unit. Each manufacturer must meet the total garment specifications for both the coat and pants.

2. **THERMAL PROTECTIVE PERFORMANCE:** The assembled garment, consisting of an outer shell, moisture barrier, and thermal liner, shall provide a Thermal Protective Performance (TPP) of not less than 35 when tested in accordance with NFPA 1971. The garment composite, consisting of the outer shell, moisture barrier and thermal liner, shall provide a Total Heat Loss (THL) of not less than 130 when tested in accordance with NFPA 1971 standard. The Heat Transfer Index rating shall be 13.5 seconds for the shoulder when measured at 2 psi.
3. **OUTER SHELL MATERIAL:** The outer shell shall be 40 percent PBI, 60 percent Kevlar rip-stop weave, and weigh approximately 7.25 ounces per square yard with a stain and water repellent finish. Color to be natural (PBI gold).
4. **MOISTURE BARRIER MATERIAL:** Non-woven aramid substrate laminated to a lightweight breathable Cross-Tech Pajama Check membrane; weighing 3.2 oz./sq. yd.

FIRE FIGHTER TURNOUT CLOTHING

SPECIFICATIONS

Page 2

5. **THERMAL LINER MATERIAL:** The thermal liner material shall be 3.5 oz./sq. yd. Glide (Nomex filament/spun) face cloth quilted to 1 layer E89 spunlaced aramid 85% Nomex/15% Kevlar weighing approximately 2.3 oz./sq. yd. with a Teflon finish, and 1 layer of apertured (11-13 apertures/sq. inch) E-89 spunlaced aramid 85% Nomex/15% Kevlar weighing approximately 1.5 oz./sq. yd. with a Teflon finish. The total weight shall be approximately 7.3 oz./sq. yd.
6. **CONSTRUCTION DETAILS:** The coat shall be designed with a 3-panel construction in all layers to provide a proper fit. When measured at the center of the back from the collar seam to the hem bottom, the coat shall measure **29 inches or 32 inches** long. Sleeves shall be of full length and of shoulder insert, two-panel type design.
7. **STRESS POINTS:** All outer shell stress points, including top and bottom pocket corners, pocket flap corners, top and bottom of storm flap/fly shall be reinforced using a 42-stitch minimum bar tack.
8. **VELCRO REINFORCEMENT:** All Velcro shall be double-stitched when attached to the turnouts to assure it remains attached, even during stressful activities. The stitching should not be close enough to the edge where the Velcro can be pulled from the stitching.
9. **COMBINATION MOISTURE BARRIER/THERMAL LINER ASSEMBLY:** Design shall be compatible with the outer shell so that the liner does not buckle, pull, or otherwise restrict body motion. The left and right fronts of the moisture barrier/thermal liner shall be attached to the facings at the front closure of the outer shell. The neck of the moisture barrier/thermal liner shall be secured to the neck of the outer shell collar such that when donning the coat an arm may not be accidentally caught between the outer shell and its inner linings along the neck between the armholes. Liner shall have a 2-inch wide, 2 ply Crosstech/Nomex pajama check extension sewn the full length of the neck. An FR loop, 3/4-inch wide, shall be sewn on extension to tuck into the pleat in the outer shell collar.

The liner shall have two (2) 8.5-in. by 8.5-in. 6 oz. Nomex internal pockets.

The moisture barrier shall be completely sewn to the thermal liner at its perimeter with the breathable membrane oriented inward toward the thermal liner and away from the outer shell. All moisture barrier seams shall be sealed as required by NFPA 1971 latest edition. The moisture barrier/thermal liner shall be finished no more than 1 inch from the cuffs and 3 inches from the hem.

10. **MOISTURE BARRIER/THERMAL LINER ATTACHMENT:** The moisture barrier/thermal liner shall be completely detachable from the outer shell for ease of cleaning by the use of hook and loop, zippers, and snaps. There shall be a brass zipper down each front facing, hook and loop along the neck to interface with collar and one snap at each sleeve end. There shall be no sharp edges due to Velcro. When the collar is pulled closed, all Velcro edges shall be flush with the material along the neck area. The outer most layer of the collar shall be constructed of outer shell material with moisture barrier/thermal liner material stitched at the edges and both sewn to the outer shell of the coat at the neck area. The innermost layer, facing against the wearer's body, shall be outer shell material with a sewn-in pleat. The pleat shall have sewn on the underside a 3/4-inch FR hook to engage the moisture barrier extension on the liner. Velcro shall be provided to the lower back of the thermal liner and the lower back of the outer shell to allow attaching them in the back to keep the thermal liner from sliding up during wear.

FIRE FIGHTER TURNOUT CLOTHING SPECIFICATIONS

Page 3

11. **COLLAR:** The collar shall be of 4-layer configuration such that when the collar is raised it will remain standing while providing continuous thermal and moisture protection around the neck and face. To ensure this protection, the inside of the collar shall be fully lined with one layer of CROSSTECH moisture barrier material and one layer of thermal liner quilted to the innermost outer shell fabric layer for additional comfort. The inner material of the collar shall be black Nomex for comfort to the wearer. The collar shall provide proper interface with the liner to insure no moisture penetration through the collar seam to inside of coat. The outer-most layer of the collar will be outer shell material. The one layer of moisture barrier and two layers of 1.5 oz. apertured E89 thermal barrier shall be the composite inner layer. Four (4) rows of horizontal stitching will attach the inner layer of outer shell to the thermal barrier material for added stability and comfort. The collar shall be snug fitting and will completely cover the neck and throat area when in the raised position. Raised height shall be approximately four inches, with a contoured overlap at the front of the coat. Collar closure will be provided by FR hook and loop 1.5 inches by 4 inches, with hook portion sewn on the right side of collar, and loop portion sewn on left, set horizontal. Collar shall be of such design so as not to interfere with SCBA facemasks or helmet. When examined prior to donning, the turned-up collar shall completely wrap around the front of the neck opening such that left and right collars touch or overlap to maximize facial protection. There will be no sharp edges associated with the fastening system of the coat. All sharp edges associated with Velcro-type material must have the edges thoroughly attached with stitching or other material. Velcro in the collar to attach inner liner to outer shell shall be provided on the outside of the collar to maximize comfort to the wearer.
12. **HANGER LOOP:** An external hanger loop constructed of a double layer of outer shell material shall be provided on the outside of the coat at the collar seam. It shall be designed to provide long service and shall not tear or separate from the coat when the coat is hung by the hanger loop, loaded evenly with a weight of 80 lbs. and allowed to hang for one minute.
13. **BELLOWS UNDERARM SHOULDER CONSTRUCTION:** Bellows underarm construction shall be used in all layers of the coat, outer shell, moisture barrier and thermal liner ensuring maximum upper body freedom of movement including complete arm mobility when reaching up and/or forward. Bellows construction shall extend to all inner layers of the coat making it possible for the fit and freedom of movement, derived from the outer shell bellows construction, to be passed through the inner layers to the wearer's body. The outer shell/moisture barrier/thermal liner bellows shoulder construction shall consist of an underarm and shoulder bellows of elongated football shape not less than 8" wide by not less than 15" long sewn into each of the coats fabric layers by two-needle construction. The bellows in each layer shall begin at a point corresponding to the front of the armpit, wrap around under the arm and shoulder joint, and terminate at the rear top of the shoulder. **NO EXCEPTIONS.**
14. **THERMAL ENHANCED YOKE:** An additional layer of 2.7 oz/sq. yd E-89 spunlaced aramid material of 85% Nomex/15% Kevlar shall be positioned between the moisture barrier and thermal liner for extra thermal protection in a high heat and compression area of the coat. It shall be sewn to the inside of the upper back portion of the thermal liner across the upper back from the back shoulder and collar seams 7 inches down and across the back ending at the armhole.

FIRE FIGHTER TURNOUT CLOTHING SPECIFICATIONS

Page 4

15. **DRAG RESCUE DEVICE (DRD):** Coat to include a Fire Fighter Recovery Harness constructed of a 1.5 inch wide Kevlar strap that shall be installed between the outer shell and the thermal liner. This harness shall have a hand loop (16 inches in circumference) that exits the outer shell through a 2 inch polymer coated aramid reinforced slot on the back of the coat just below the collar and is held in place by means of a piece of 1.5 inch x 2 inch hook on the strap and a piece of 1 inch x 2 inch loop attached to the outer shell. This strap is then secured under a 2.25 inches x 5.25 inches flap that is sewn in at the neck/collar area. Two pieces of 1 inch x 2 inches loop shall be set vertically on shell to align with two pieces of 1 inch x 2 inches hook set vertically to the underside of the flap. The harness is also held in proper alignment by means of a 2 inches x 2 inches piece of loop placed on the inside of the outer shell just above the chest trim that corresponds to a piece of 1.5 inch x 2 inches hook located on the harness. Two 1 inch x 3/5 inches self-fabric straps with 1 inch x 2 inches hook on one end and 1 inch x 2 inches loop on the other end shall be set inside the coat in the shoulder cap area to keep straps in proper position for use. Fire Fighter Recovery Harness provides mechanical leverage for dragging a downed and incapacitated structural fire fighter from a life threatening environment. The design of the harness enables the rescuer to drag the downed fire fighter in line with the axis of the fire fighter's skeletal frame, in order to decrease the risk of further injury.
16. **SHOULDER REINFORCEMENT:** A 6-inch wide area at the top of the shoulders extending from the shoulder seam to a width of 4 inches at the collar shall be capped with outer shell material for abrasion resistance and thermal protection. For additional thermal protection and cushioning, one layer of 1/8-in. thick, fire retardant closed-cell foam shall be oriented between the outer shell and the shoulder cap reinforcement.
17. **FREEDOM ELBOW:** The sleeve shall have an insert throughout all layers, which shall provide a natural bend in the sleeve. This insert shall be set in the back of each sleeve and shall be a shortened football shape, 6 inches wide in the middle and 3 inches wide at the seams. The outer shell insert shall consist of outer shell material for abrasion resistance and thermal protection. **NO EXCEPTIONS.**
18. **CUFFS:** The cuff of the sleeve shall be reinforced with a binding of gold split cowhide leather not less than 2 inches in total width for greater strength, abrasion resistance, and thermal protection. At least 2" of the cuff reinforcement shall extend down the interior of the outer shell sleeve with a 0.75" wide strip of FR hook sewn full circumference to the topside of the cuff reinforcement. For added safety, one female snap fastener shall be set in the hook fastener to assist in attaching the outer shell to the moisture barrier/thermal liner.
19. **SLEEVE WELL AND WRISTLET MOUNTING:** A combination thermal liner/breathable Crosstech moisture barrier leader shall be sewn no more than 1" back from the combination liner sleeve end to form a sleeve well. A 0.75 inch wide strip of FR loop fastener shall be sewn full circumference to the end of the thermal liner/Crosstech moisture barrier leader to help secure the combination liner to the outer shell. This sleeve well shall prevent water and hazardous materials from entering the sleeve when arms are in a raised position.

The combination liner sleeve ends shall be inserted into the outer shell sleeve ends by means of lining up the snaps then attaching the FR loop fastener of the combination liner sleeve end with the FR hook fastener of the outer shell cuff. This method of combination liner attachment shall prevent any gaps from occurring between the combination liner and sleeve well during a full range of motion. The combination liner shall extend to within 1 inch of the sleeve end.

FIRE FIGHTER TURNOUT CLOTHING SPECIFICATIONS

Page 5

20. **WRISTLETS:** An internal wristlet shall consist of a 2-ply knit of 48% Nomex/48% Kevlar and 4% Spandex for superior recovery. Wristlet to be combination of natural and bronze pigment dyed by DuPont, and with extremely durable Teflon® water-resistant alloy not less than 8" extending completely over the palm with a thumbhole preventing the wristlet from sliding back. Wristlets shall be double stitched and bound to the moisture barrier/thermal liner providing extended thermal and slash protection. Coats shall be available with wristlet with thumbhole as well as standard wristlet without thumbhole.
21. **THERMAL FRONT PANEL CONSTRUCTION:** There shall be continuous thermal and moisture protection around the entire torso including the coat front area beneath the storm flap. To ensure this protection, as well as reduce potential for wicking moisture to inside of liner, both right and left inside front facings of the coat outer shell shall incorporate outer shell fabric sewn to an additional layer of Gore Crosstech vapor permeable film meeting all requirements for moisture barriers, extending from collar to hem.
22. **COAT FRONT CLOSURE DESIGN:** The complete outer shell coat front closure design shall consist of a front closure system completely protected by an outside storm flap which shall have its own, independent storm flap closure system.
23. **STORM FLAP:** A storm flap measuring not less than 5" wide, nor less than 22" in length shall be set on the outside of the right side of the coat opening for maximum thermal protection and clear drainage. The inner lining of the storm flap shall be Gore CROSSTECH vapor permeable film meeting all requirements for moisture barriers sandwiched between two (2) layers of outer shell fabric.
24. **FRONT/STORM FLAP CLOSURES:** Hook & Dee Rings/Hook & Loop Attachment. The front closure shall consist of four (4) Dee rings set at the extreme right side of the coat front, underneath the storm flap with two (2) leather reinforced rivets. Opposite of each Dee ring, a corresponding snap hook shall be set with three (3) leather reinforced rivets to the underside of the left coat front leading edge. The storm flap closure shall consist of a 2" wide loop on the inner side of the storm flap and 2" wide hook attachments on the left coat front. The hook and loop closure shall extend the full length of the outer storm flap eliminating all exposed frontal hardware.
25. **HAND WARMER POCKETS:** There shall be two 8.5 in. x 9 in. hand warmer pockets that expand by means of a 2-inch pleat set at the bottom of the coat hem and reinforced with a minimum 42-stitch bar tack. Reflective trim shall be set on each pocket. Drainage of moisture shall be provided with two (2) eyelets set at the bottom of each pocket. The pockets shall be lined and reinforced with self material 4.5 inch up on the inside of the pocket with a self material backer. The pocket flaps shall extend .5 inch over each side of the pocket and reinforced with 42-stitch bar tacks. Pocket flaps shall close to the pocket using two pieces of 1.5 in. by 2.75 in. hook on flap and two pieces of 1.5 in. by 2.75 in. loop on pocket.
26. **RADIO POCKET:** One 3.5 in. wide by 9 in. deep full bellows radio pocket that expands by means of side and front gussets to a thickness of 2 inches in front and back shall be located on the left chest. Pockets shall have top and bottom pocket corners reinforced with bar tacks. Moisture drainage shall be provided by brass eyelets. Pocket flaps shall extend 1 inch over each side of pocket and 3 inches deep. The flap shall have a cut out on the left side for a radio antenna. Flaps shall be reinforced with bar tacks. Pockets shall be fully lined (on all three sides) with Neoprene coated poly/cotton material. A hook and loop closure system shall be mounted with a loop fastener set on the pocket and hook fastener set on the underside of the flap. There shall be a minimum of three drain holes in the bottom of the radio pocket to allow water to drain properly.

FIRE FIGHTER TURNOUT CLOTHING SPECIFICATIONS

Page 6

27. **RADIO MICROPHONE TABS:** Two 1 inch wide by 3 inch long universal straps constructed of three layers of outer shell material attached with 42-stitch bar tacks to accommodate a radio microphone shall be provided as such: A) One shall be set to the left chest above the radio pocket, and B) Another shall be located on the front storm flap approximately 6 inches from the top of the flap.
28. **FLASHLIGHT HOOK AND STRAP:** A 1 inch wide by 2 inches long strap constructed of three layers of outer shell material shall be bar tacked vertically with a 703 fastener hook to the right chest no more than 2 inches from the storm flap. There shall be a 1.25 inch wide by 8.5 inch long strap constructed of three layers of outer shell material sewn with a box and X-stitching and set horizontally 5 inches below the hook. This strap shall close by means of one piece of 1 in. by 2 in. loop on one end and one piece 1 in. by 2 in. hook on the opposite end.
29. **REFLECTIVE TRIM:** Outer shell reflective trim shall be 3-inch Scotchlite II (Triple Trim) of lime-yellow and silver in color, and shall be applied as follows: One 3-inch strip completely around the bottom of coat; one 3-inch strip around sleeves approximately 4 inches above the cuffs; one 3-inch strip around sleeves just above elbows; and one 3-inch circumferential band around chest area and back over the storm flap, approximately the same height as the 3-inch upper arm trim. Trim shall be sewn with lockstitch 301, minimum 6 stitches per inch.
30. **OUTER SHELL REFLECTIVE LETTERS:** Outer shell reflective lettering shall be Scotchlite, lime yellow in color, and shall be three (3) inches high. Each coat shall contain three (3) letters sewn on the back of the coat in the area between the shoulder blades (back yoke). The letters shall be "GFD".
31. **HANGING LETTER PATCH:** A hanging letter patch (tail) shall be attached to the bottom of the coat on the back to accept the detachable name patch. The purpose of the tail shall not be an integral part of the fire protective design of the turnout ensemble, but rather to allow the name patch to be seen while the wearer is wearing self-contained breathing apparatus. The tail shall be approximately 4 inches in height and 16 inches in width. Tail shall be made of same material as outer shell of the turnout coat. Tail shall be located at the bottom of the turnout coat below the reflective trim and centered on the back. Tail shall be of sufficient size to accept the detachable name patch specified below.
32. **DETACHABLE NAME PATCH:** A detachable name patch shall be provided for the back of each turnout coat on the hanging letter patch. The patch shall be made of the same material as the outer shell. The patch shall be approximately 3 inches in height and 14 inches in width. The patch shall have Scotchlite reflective letters, lime yellow in color, 2 inches in height. (If names are too long to fit on the patch with this size of letters, the letters will need to be adjusted accordingly.) Patches with personnel names will contain an average of approximately 8 letters per patch. Specific names to be placed on each name patch will be specified upon ordering. The name patch will have pile Velcro backing to attach to corresponding loop Velcro located on the back of the turnout coat approximately 1 inch below the GFD reflective letters. **(Bidders must ensure that name patches will properly attach to coats. It is important that loop and pile be applied on proper sides so as to allow interchanging with existing turnout coats.)**
33. **SIDE ADJUSTMENT STRAPS:** There shall be two side adjustment straps, one on each side of the coat to allow for tighter fit of the lower portion of the coat.
34. **AMERICAN FLAG PATCH:** An American Flag patch shall be attached on the upper left sleeve of the turnout coat. Flag to be approximately 3.5 inches wide by 2 inches tall.

FIRE FIGHTER TURNOUT CLOTHING SPECIFICATIONS

Page 7

35. **SIZING:** When measured at the center of the back from the collar seam to the hem bottom, the coat shall measure either **29 inches** or **32 inches** long, depending upon the height of the wearer. The coat shall be made available in even chest sizes from 34 to 60 inches with corresponding sleeve lengths available in short, regular and long.

Vendors should submit prices for both normal (S-M-L) and oversize (XL-XXL) coats, along with any other additional charges for special tailoring. A complete list of names will be furnished to the selected vendor when the order is placed. All individuals receiving these turnout coats shall be measured by a trained representative from the selected company. Vendor is responsible for the correct sizing of each order. The Vendor will be responsible for all sizing at the Fire Department's requested location. If there is an additional charge for this process, the price per custom measuring must be clearly indicated in the submitted bid.

36. **LABELING:** The garment shall be labeled in accordance with the requirements of NFPA 1971, latest Edition.
37. **TRACKING LABEL SYSTEM:** There shall be a PDF417, two dimensional bar code label permanently affixed to each garment for tracking purposes. The bar code shall contain a minimum of the following information:
- a. Unique serial number
 - b. Item description (brand, model, material color)
 - c. Lot information (date of mfg, size, etc.)
 - d. Material description
 - e. The standard to which the garment is compliant

The bar code shall be able to withstand customary wash and wear cycles. The PDF417 bar code must incorporate a minimum of a 30% "error correction" capability.

38. **USER INFORMATION GUIDE:** Each individual garment shall include a User Information Guide with information required by NFPA Standard 1971. This guide will include cleaning instructions, maintenance criteria, methods of repair, warranty information, safety considerations, storage conditions, decontamination procedures, and retirement considerations.
39. **WARRANTY:** Each garment shall have a limited lifetime warranty against defects in material and workmanship and such warranty must be detailed on a card attached to each garment.
40. **QUALITY REFERENCE:** An acceptable example of the turnout coat per these specifications is the Janesville Freedom Series Commando Turnout Coat.

FIRE FIGHTER TURNOUT CLOTHING SPECIFICATIONS

Page 8

B. TURNOUT (BUNKER) PANTS

1. **SCOPE:** This protective clothing is for conventional structural fire fighting operations where there is a threat of fire or when certain physical hazards are likely to be encountered, such as during non-fire related rescue operations, emergency medical operations and victim extrications. This protective clothing is not proximity or entry gear, and is not designed for continuous direct contact with flames.

Garments shall meet NFPA Standard 1971, latest edition. All construction, features and fabrics in this specification must meet or exceed the requirements of NFPA Standard 1971, latest edition. All references in these specifications to NFPA 1971 shall be in accordance with the latest edition. OSHA 1910, Subpart L, OSHA 29 CFR Part 1910.1030 and/or Cal-OSHA Title 8, Article 10.1, Paragraph 3406. Such features, fabrics, construction, trim and other details, whether specifically enumerated in this specification or not, are the responsibility of the dealer, agent, manufacturer or other seller. Any implied or direct conflicts between this specification and NFPA 1971, OSHA Subpart L and Cal-OSHA are not the intention of this specification, and will be eliminated by notifying the City of Germantown who will then make necessary alterations to the specification. All components used in the construction of garments shall be third party tested, certified and listed for compliance to NFPA 1971. All such certifications shall be noted with certification labels from the third party testers.

This coat is intended to be worn with the turnout pants described earlier in these specifications and must be tailored so that the two garments are of compatible design. All personnel receiving these items shall be measured by a trained representative from the selected bidder. It shall be the responsibility of the selected company to provide proper fit for each garment. **If there is an additional charge for the fitting process, the price per custom measuring must be clearly indicated in the submitted bid.**

It is the City's intention to purchase the turnout coats and pants as either a combined unit or as an individual replacement item for a unit. Each manufacturer must meet the total garment specifications for both the coat and pants.

2. **THERMAL PROTECTIVE PERFORMANCE:** The assembled garment, consisting of an outer shell, moisture barrier, and thermal liner, shall provide a Thermal Protective Performance (TPP) of not less than 35 when tested in accordance with NFPA 1971.

The garment composite, consisting of the outer shell, moisture barrier and thermal liner, shall provide a Total Heat Loss (THL) of not less than 130 when tested in accordance with NFPA 1971 standard.

The Heat Transfer Index rating shall be 13.5 for the knee when measured at 8 psi.

3. **OUTER SHELL MATERIAL:** The outer shell shall be 40 percent PBI, 60 percent Kevlar rip-stop weave, and weigh approximately 7.25 ounces per square yard with a stain and water repellent finish. Color to be natural (PBI gold).
4. **MOISTURE BARRIER MATERIAL:** Non-woven aramid substrate laminated to a lightweight breathable Crosstech Pajama Check-based membrane; weighing 3.2 oz./sq. yd.

FIRE FIGHTER TURNOUT CLOTHING

SPECIFICATIONS

Page 9

5. **THERMAL LINER MATERIAL:** The thermal liner material shall be 3.5 oz./sq. yd. Glide (Nomex filament/spun) face cloth quilted to 1 layer E89 spunlaced aramid 85% Nomex/15% Kevlar weighing approximately 2.3 oz./sq. yd. with a Teflon finish, and 1 layer of apertured (11-13 apertures/sq. inch) E-89 spunlaced aramid 85% Nomex/15% Kevlar weighing approximately 1.5 oz./sq. yd. with a Teflon finish. The total weight shall be 7.3 oz./sq. yd. The moisture barrier shall be completely sewn to the thermal liner at its perimeter with the breathable membrane oriented inward toward the thermal liner and away from the outer shell. The moisture barrier/thermal liner shall finish no more than 3 inches from the cuffs.
6. **PANT CONSTRUCTION:** The pant shall be no more than 1 inch higher in the front than a standard bunker pant with a gradual increase to 2 inches in the rear.
7. **STRESS POINTS:** All outer shell stress points, including top and bottom pocket corners, pocket flap corners, top and bottom of storm flap/fly shall be reinforced using a 42-stitch minimum bar tack.
8. **VELCRO REINFORCEMENT:** All Velcro shall be double-stitched when attached to the turnouts to assure it remains attached, even during stressful activities. The stitching should not be close enough to the edge where the Velcro can be pulled from the stitching.
9. **COMBINATION MOISTURE BARRIER/THERMAL LINER ASSEMBLY:** Design shall be compatible with the outer shell so that the liner does not buckle, pull, or otherwise restrict body motion. The waist of the moisture barrier /thermal liner shall be secured to the waist of the outer shell such that when donning the pant, a leg may not be accidentally caught between the outer shell and its inner linings along the waist and between the legs of the pant.
10. **MOISTURE BARRIER/THERMAL LINER ATTACHMENT:** The moisture barrier/thermal liner shall be completely detachable from the outer shell for ease of cleaning by using snaps. Eight (8) evenly spaced snaps shall secure the liner to the integral waistband; (2) snaps shall be set in leather leg tabs at each leg end.
11. **RADIAL INSEAM BAND:** The pant inseam shall incorporate a comfort/mobility design in all layers. This design shall eliminate crotch seams, providing for a more comfortable fit while decreasing bunching of materials. Mobility shall be gained through this design by increasing leg circumference. This design shall reduce restriction of leg movement. The banded pant insert shall run continuously from the top of the mobile knee of one leg, through the crotch, to the top of the mobile knee of the opposite leg.
12. **FREEDOM KNEE DESIGN:** The knee area shall incorporate a comfort/mobility design in all layers. This design will allow for a natural bending motion of the knee. The knee shall be gold split cowhide leather and measure 11 inches across the bottom, not less than 7 inches on the sides and gradually increase to 10 inches at the center point at the apex. The apex of the knee will allow for not less than a 10 inches bellows at the center. The radial seam provides a gusset that the knee can fall into when crawling, climbing, bending, kneeling, etc. The bottom of the mobile knee should be placed not less than 10 inches from the cuff to fall anatomically correct. For added thermal protection, an additional layer of fire retardant foam shall be positioned between the outer shell and knee reinforcement. For additional thermal protection and cushioning, 6-layer of 1/8 inch thick or a minimum of 3/4 inch padding shall be provided to the knee area. Fire retardant closed-cell foam shall be oriented between the outer shell and the knee reinforcement. **NO EXCEPTIONS.**

FIRE FIGHTER TURNOUT CLOTHING SPECIFICATIONS

Page 10

13. **STORM FLY/CLOSURE:** The outer shell shall have an overlapping fly front running the full length of the fly on the left side. The flap shall not be less than 2.5 inches wide at the waistband. The bottom of the fly shall be reinforced with a 42-stitch bar tack. The storm fly shall be held closed along its length by means of a hook and loop fastener closure 1.5 in. minimum width, along the leading edge for a distance of not less than 6 inches from the bottom of the fly closure to the waist area for proper alignment and secure closure. Additionally, one snap shall be positioned at the inside top of the fly. Pant closure shall be provided by a #10 brass zipper. The storm fly shall be outer shell material, lined with a 3.5 in. strip of Nomex laminated to a breathable CROSSTECH film material to prevent wicking.
14. **THERMAL FLY ASSEMBLY:** The moisture barrier/thermal liner shall be constructed with an extension on the left side at the waist of all layers of the fly opening to assure continuous thermal and moisture protection. This overlap shall be positioned between the layers of the outside storm fly. A 1 in. wide x 9 in. long hook fastener shall be sewn to the moisture barrier/thermal liner to engage corresponding loop fastener on the underside of the outside storm fly. At the bottom of the fly opening, this overlap shall be further secured by means of a bar tack to prevent gaping at the base of the moisture barrier/thermal liner fly when the wearer is kneeling/crawling. This bar tack shall also serve to reinforce the front end of the seat seam if stretched or stressed.
15. **WAISTBAND:** The waist of the pants shall be reinforced on the inside with two-(2) ply of outer shell fabric material not less than 2.25 inches in width. The waist shall be turned under to provide double material strength with the independent waistband shall be double stitched to the outer shell. Eight (8) suspender buttons shall be appropriately spaced around the waistband to accommodate the use of suspenders.
16. **EXTERNAL TAKE-UPS:** One adjustment device shall be affixed to the outside on each side of the pant. Each take-up strap shall be comprised of two sub-component straps. The front strap shall be 1 inch wide x 5 inches in length, folded in half to form a loop, and shall be affixed to the side of the pant by means of two bar tacks spaced 2 inches apart. The loop shall face toward the back and hold a nickel plated 1 inch metal loop. The back strap shall be 1 inch wide x 9 inches in length of double layered outer shell material, and shall be affixed to the rear of the back of front body panels by means of three bar tacks, and shall be positioned to allow the loose end to thread through the metal loop. The metal loop shall allow for adjustment and shall firmly hold the take-up strap in the desired position. Hook and look attachments shall be used to secure the loose end of each take-up strap to its respective component. 1 inch x 4.5 inches loop fastener shall be set horizontally on each back take-up strap. 1 inch x 3 inches hook fastener shall set at the end of the take-up strap and shall be positioned to engage the corresponding loop fastener.
17. **LUMBAR SUPPORT SYSTEM:** Each pant shall have a lumbar support system integrated into the pant. This device shall provide mechanical support for the back by generating intra-abdominal pressure without increasing abdominal muscle activity. Components of the lumbar support system include a 6 in. by 8 in. orthopedic, non-absorbent, fire retardant, closed-cell foam pad, elastic webbing, metal adjusters, and pull tabs.

The lumbar support system shall be oriented between the outer shell and liner. Each pant front shall have two (2) tunnel openings reinforced with polymer coated Kevlar welts, for durability, spaced 7" apart on the front of the pant. Pull tabs, shall be constructed of black split cowhide leather, 1.5 in. wide by 5.5 in. long shall be sewn to two (2) straps of 2 in. wide elastic webbing on each side of the pant. Elastic webbing shall be secured to center rear of pant. There shall be an additional layer of outer material sewn in the rear of the pants a minimum of 2 inches beyond the rear lumbar support area. When the lumbar support system is

FIRE FIGHTER TURNOUT CLOTHING SPECIFICATIONS

Page 11

deactivated, pull tabs shall be visible on the front of pants. 1.5 in. wide by 5.5 in. long loop fastener shall be sewn on the underside of each pull tab to engage the system.

The right elastic straps shall each have a 2 in. wide by 5 in. long loop fastener sewn on the underside, while the left elastic straps shall each have a 2 in. wide by 5 in. long hook fastener sewn on top for engaging the system. The left side of the pant outer shell shall have 1.5 in. wide by 3 in. long hook fastener for storage of pull-tab and to help engage system. The right side of pant shall have 1.5 in. wide by 3 in. long hook fastener for storage of pull tab and to assist in engaging the system. The foam pad shall have one 4 in. wide by 5 in. long strip of hook fastener to engage two 2 in. wide by 6 in. long strips of loop fastener sewn to the rear of the pant to secure pad in place. **NO EXCEPTIONS.**

18. **FULL BELLOWS POCKETS:** One 10 in. by 10 in. full bellows pocket that expands by means of side and bottom gussets to a thickness of 2" in front and back shall be set on the left thigh. Top and bottom pocket corners shall be reinforced with bar tacks for additional strength. Drainage of moisture shall be provided by eyelets. The second pocket shall be a split, full bellows pocket located on the right thigh. This pocket shall also be 10 in. by 10 in. with full bellows. The pocket will expand by means of side and bottom gussets to a thickness of 2 inches in front and back. Top and bottom pocket corners shall be reinforced with bar tacks for additional strength. Drainage of moisture shall be provided by eyelets. The pocket shall be divided into two compartments. The front compartment will be approximately 6 inches wide and the rear compartment will be approximately 4 inches wide.
19. **POCKET REINFORCEMENT:** Pockets shall be fully lined (on all four sides) with Kevlar twill. The twill material shall have no unfinished seams showing. The bottom half of the pocket shall be reinforced with a binding of gold split cowhide leather on the outside for greater strength, abrasion resistance, and thermal protection.
20. **POCKET CLOSURE:** Flaps shall be a full .5 in. wider than the width of the pocket on each side, and have a total height equal to the thickness of the pocket's bottom gusset plus 3 inches. Flaps shall be formed using stitch 301, seam Ssa1, turned and topstitched using stitch 301, seam Ssc2. Flaps shall be set using stitch 301, seam Ssn2, inverted and reinforced at each top corner with bar tacks. Pocket flaps shall close with a hook and loop attachment closure. This hook and loop system shall be mounted such that loop fastener is on the pocket and hook fastener is on the underside of the Pocket flap. There shall be three pieces of 1 in. by 3 in. long hook sewn vertically to the pocket flap. There shall be one horizontal strip of 1 in. by 10 in. long piece of loop sewn to the pocket horizontally.
21. **PANT CUFFS:** The cuff area of the pant shall be reinforced with a binding of gold split cowhide leather not less than 2 inches in total width for greater strength, abrasion resistance, and thermal protection. The back portion of the cuff shall be cut and sewn to gradually curve upward from each side seam to a maximum of 2 inches at the center back of the pant leg to prevent wear on the back of the cuff.
22. **OUTER SHELL REFLECTIVE CUFF PATTERN:** Outer shell reflective trim shall be 3 in. Scotchlite II (triple trim) of lime-yellow and silver in color, and shall be applied as follows: one 3 in. strip set full circumference around the bottom of the cuff 2 - 3 inches from the bottom hem. All trim shall be sewn with lockstitch 301, minimum 6 stitches per inch.

FIRE FIGHTER TURNOUT CLOTHING SPECIFICATIONS

Page 12

23. **SIZING:** Garments shall be available in even waist sizes with inseam lengths available in extra short, short, regular and long. Vendors should submit prices for any other additional charges for special tailoring. A factory-trained representative will be required to measure for proper fit of these items. Vendor is responsible for the correct sizing of each order. The Vendor will be responsible for all sizing at the Fire Department's requested location. If there is an additional charge for this process, the price per custom measuring must be clearly indicated in the submitted bid.
24. **LABELING:** Each detachable layer of each garment shall bear prominently displayed, permanently sewn in label(s) meeting the requirements of NFPA Standard 1971, latest edition.
25. **TRACKING LABEL SYSTEM:** There shall be a PDF417, two dimensional bar code label permanently affixed to each garment for tracking purposes. The bar code shall contain a minimum of the following information:
 - a. Unique serial number
 - b. Item description (brand, model, material color)
 - c. Lot information (date of mfg, size, etc.)
 - d. Material description
 - e. The standard to which the garment is compliant

The bar code shall be able to withstand customary wash and wear cycles. The PDF417 bar code must incorporate a minimum of a 30% "error correction" capability.
26. **USER INFORMATION GUIDE:** Each individual garment shall include a use Information Guide with information required by NFPA Standard 1971. This guide will include cleaning instruction, maintenance criteria, methods of repair, warranty information, safety considerations, storage conditions, decontamination procedures, and retirement considerations.
27. **WARRANTY:** Each garment shall have a limited lifetime warranty against defects in material and workmanship and such warranty must be detailed on a card attached to each garment.
28. **QUALITY REFERENCE:** An acceptable example of the turnout coat per these specifications is the Janesville Freedom Series Commando Turnout Coat.

FIRE FIGHTER TURNOUT CLOTHING SPECIFICATIONS

Page 13

C. FIRE FIGHTER BOOTS

1. **LEATHER BOOT, KNEE LENGTH:** Boots shall be a 14" high pull-on, black, fabric/leather bunker style boot. Boots shall have combination midsole/ladder shank/puncture resistant device for added support and comfort with less weight. Full-grain water-resistant leather upper, ankle guard, flex points fore and aft of the ankle, safety toes, tibia guard, micro fiber suede heel slide, and nitrile rubber toecap for fire service personnel. Boots shall meet or exceed NFPA1971, latest edition.
2. **VAMP:** Full-grain, water, flame, chemical, and cut resistant leather, 2.4 – 2.6 mm nominal thickness, 6.5 oz.
3. **QUARTER:** Schoeller fabric blend with KERMEL to reduce weight and improve breathability. Mesh window for enhanced ventilation.
4. **PULL STRAPS:** Low profile, 1" wide, triple-stitched reinforced, full-grain water and flame resistant leather.
5. **FLEX POINTS:** Accordion-style flex points behind and in front of the ankle to allow the boot to flex with wearer, providing improved range of motion.
6. **SAFETY TOE:** Corrosion resistant, anatomically shaped steel safety toe.
7. **COMBINATION MIDSOLE/LADDER SHANK/PUNCTURE RESISTANT DEVICE:** MIDSOLEARMOR combines the functionality of the midsole, ladder shank, and puncture resistant device into a single-piece construction. Provides full puncture resistance coverage and thermal insulation for the bottom of the foot. Unique construction is stiff and supportive in the heel and arch areas, yet flexible in the forefoot area to allow the foot to flex naturally.
8. **INSOLE:** Combination Texon and polyethylene; anti-microbial; wicks perspiration and dries quickly; lightweight with excellent flex endurance.
9. **FOOTBED:** Triple-density, removable footbed made of Cambrelle, felt, and ergonomically molded EVA. Wicks moisture and dries rapidly. EVA provides cushioning.
10. **OUTSOLE:** High traction, abrasion resistant, electrically insulating, oil, flame, and chemical resistant, nitrile rubber outsole equipped with ergonomic HEELROLL and TOESPRING to promote a natural walking motion. High profile ladder grips to prevent slips. Specially formulated compound (nominal durometer 66 Shore A) provides superior traction without sacrificing abrasion resistance and durability. Integrated stand-off allows for easy removal of the boot.
11. **HEEL COUNTER:** Ergonomically molded heel counter provides stability, comfort, and long-lasting support.
12. **THERMAL BARRIER:** Full-height layer of 300 g polyester felt provides thermal protection.
13. **FULL-HEIGHT CROSSTECH FOOTWEAR FABRIC BOOTIE SYSTEM:** Five-layer laminate of durable Cambrelle quilted to 300 g polyester felt thermal barrier, laminated to a CROSSTECH moisture barrier.

FIRE FIGHTER TURNOUT CLOTHING SPECIFICATIONS

Page 14

14. **HEEL SLIDE:** Abrasion resistant microfiber suede. No stitching or seams running directly down the center of the backstay in the heel area to improve comfort and prevent premature wear of the liner.
15. **SHAFT COLLAR:** Soft, full-grain leather-bound padded collar for superior comfort to accommodate individual leg sizes.
16. **COMFORT PADDING:** Thermal insulating, open cell polyurethane foam padding strategically placed throughout the upper for superior comfort and support.
17. **THREAD:** Tough, fire-resistant Kevlar thread throughout the upper.
18. **OUTSOLE ADHESION:** A 2-component, high-temperature polyurethane adhesive system is used to bond the outsole/midsole to the upper.
19. **PROTECTIVE TOE CAP:** Abrasion, chemical, and flame resistant nitrile rubber protective toecap; 1.8 mm nominal thickness.
20. **TIBIA GUARD:** Internal tibia guard made of thermoformed polypropylene, extremely lightweight with a specific gravity of 0.75, impervious to water. External tibia guard cover made of abrasion, fire, and water resistant Schoeller fabric blend containing Kermel and a reflective background.
21. **ANKLE GUARD:** AnkleArmor contoured ankle guards protect ankles from knocks and dings.
22. **MARKINGS:** Interior label containing all information as required by NFPA 1971, latest edition.
23. **WEIGHT:** Boots shall weigh no more than approximately 5.5 pounds per pair for regular sizes.
24. **SIZES:** Boots to be available in full and half sizes from sizes 5 - 15, in various widths for maximum comfort and fit.
25. **QUALITY REFERENCE:** An acceptable example of the fire fighter boot per these specifications is the Cosmas Vulcan 14-inch leather structural fire fighters knee boot, Model CMF24.
26. **SAMPLE REQUIRED:** If different from the quality reference each vendor will submit a sample of the brand and style of the boot being bid. Failure to submit a sample boot may subject the bid to rejection for the boots portion of the bid. Samples will be returned upon request.

FIRE FIGHTER TURNOUT CLOTHING
SPECIFICATIONS

Page 15

D. FLAME RESISTANT PROTECTIVE HOODS

1. **SCOPE:** This protective clothing is for conventional structural fire fighting only to protect the head and neck against extreme temperatures, hot particles, and other hazards encountered during fires and related emergencies. This protective clothing is not proximity or entry gear, and is not intended for continuous direct contact with flames. The protective hoods intended are long, bib style, double layer PBI/Lenzing blend hoods with shoulder notch and elastic face opening. The hood must meet the requirements of NFPA Standard 1971, latest edition.
2. **FABRIC:** All layers shall be 20% PBI Rib Knit/80% Lenzing/Rayon blend 1 in. by 1 in. rib knitted into at least a 6 ounce per square yard fabric of natural color.
3. **THREAD:** All thread to be 100% Nomex or Kevlar and of not less than yarn size 30/3 for absolute seam reliability.
4. **STITCHING:** All stitching shall conform to Federal Standard 751 specifications. All seams to be flatlock.
5. **ONE PIECE HOOD STYLE:** The hood shall have a thickness composed of two layers of fabric, although the crown may be single ply to prevent bulk under the helmet. Two-layer thickness shall be carried to the bottom of the hood. It shall be a fabricated one-piece construction such that a single seam from the top of the face opening back over the head and down to the bottom of the hood drape shall form the hood shape. A single flatlock stitch shall run from the top-center of the face opening up over the top of the head and down the back of the hood to the bottom of the hood. There shall be no other seaming in the head portion of the hood. The junction of the flatlock stitch and face opening binding shall be reinforced with a bar tack. The hood shall be approximately 26 inches in length front and back and approximately 10 inches wide at the neck. The bottom of the hood (drape) shall be of shoulder notch style and should extend at least 17 inches from the base of the face opening. It is not intended that the hood will drape past the shoulders.
6. **FACE OPENING:** The face opening in the front of the hood shall be an oval shape approximately 5 inches in width and 5 inches in height formed of pucker-free, triple-stitched 20% PBI/ 80% Lenzing blend binding. The face opening shall be elastic. The elastic band shall function to prevent knit fabric sagging or distortion after repeated washing and use. Preventing loss of shape shall preserve the desired close protection to the face and prevent the hood from blocking the vision of the wearer.
7. **BIB HEM BINDING:** Bib shall include full hem binding of 20% PBI/ 80% Lenzing FR.
8. **SIZING:** One size hood shall fit all personnel.
9. **LABELING:** Each hood shall be clearly labeled to identify the material content. Each hood shall have a detachable card that states any and all warning, use and care instructions.

FIRE FIGHTER TURNOUT CLOTHING SPECIFICATIONS

Page 16

10. **WARRANTY:** A minimum 60-day warranty of materials and workmanship shall be given. This warranty, and a warranty registration card (if required), shall be fully explained on a card attached to every garment.
11. **QUALITY REFERENCE:** An acceptable example of a hood per these specifications is the Majestic Fire Apparel, Inc. Firefighter Protective Hood, Style PAC IA 26" (PBI/Lenzing bib style with shoulder notch and elastic face opening).
12. **SAMPLE REQUIRED:** If different from the quality reference each vendor will submit a sample of the brand and style of the hood being bid. Failure to submit a sample hood may subject the bid to rejection for the hoods portion of the bid. Samples will be returned upon request.

E. HELMET

1. **GENERAL:** The helmet must meet the requirements of NFPA Standard 1971, latest edition. Bidders shall include a complete, current NFPA 1971 test report from a recognized, accredited test facility detailing all performance data for the helmet being offered. Certificates of conformance and/or letters of certification alone shall not be acceptable.
2. **CONSTRUCTION:** The helmet shall include a high temperature outer shell comprised of long fibered fiberglass and high temperature thermoset resin. It shall have a removable high temperature shock attenuating liner complete with a cradle strap assembly providing at least 6 point strap assembly, a ratchet adjustable head liner subsystem, a chinstrap, Nomex ear/neck protection, protective brim edging, a durable metal hanging "D" ring and Defender retractable visor.
3. **WEIGHT:** Total weight of helmet, including standard attached accessories, shall not exceed 48 ounces.
4. **SHELL:** The shell shall be of traditional American Fire Service Style, molded in one piece to simulate a four piece crown with rib reinforcement approximating four major ribs (front, back and sides) and four minor combs. There shall be a brim section with a short front visor continuing around the sides to a large rear brim area.

The shell dimensions shall be 15.5" in length, 12.25" in width and a crown depth of 6.5". The shell shall have a nominal wall thickness of 0.065".

The shell shall be compression molded, through colored composite consisting of long fibered fiberglass and a high temperature resistant, flame resistant thermoset resin. The main ribs shall be reinforced with additional material to ensure toughness.

The upper surface of the brim shall have molded into the surface of the composite the traditional fire service vine scroll work.

The exterior of the molded shell shall be completely coated with a color pigmented, high gloss luster, abrasion, high heat and chemical resistant finish coating that shall match the composite shell color impregnation.

FIRE FIGHTER TURNOUT CLOTHING SPECIFICATIONS

Page 17

The shell shall not have an exterior soft coating that could mask damage to the shell, absorb products of combustion or other contaminants or deteriorate at a rate different than that of the other shell components.

The shell impregnation and matched finish coating shall be available in the standard colors of white, red, black, and yellow. Orange and blue color coatings shall be available over white composite shell material.

The shell shall be furnished with an embossed, formed sheet brass front piece holder which shall be attached to the shell's front main rib, positioned to support the top of a standard 6" fire department identification shield.

The shell shall have a front piece mounting bracket affixed to the center front visor of the brim. The bracket shall provide for positioning and retention of a standard 6" fire department identification shield.

The edge of the shell shall have an edge bead of flexible, aluminum cored, grain embossed elastomer.

The shell shall have a nickel plated "D" ring, 3/4" and stainless steel clip attached to the center rear of the brim.

5. **IMPACT LINER:** The impact liner shall be a combination of rigid cell, high temperature urethane foam attached to a flame resistant thermoplastic inner liner. The impact liner shall be modular and field removable for periodic inspection of the foam's integrity. NO EXCEPTION.
6. **SHELL RELEASE PROVISION:** The impact liner, complete with suspension system and chinstrap assembly (retained as described above) shall be retained to the helmet by means of two thermoplastic retention clips mounted under the face shield pivot hardware and by hook and pile fastener sections between the impact liner and helmet shell in the crown area. To allow the helmet shell to be removed from the liner while the helmet is being worn, such as in the event of an emergency requiring the immediate removal of the shell, the helmet with the chinstrap deployed shall provide for the helmet shell to release from the impact liner/chinstrap assembly at a load of 80 lbs. + 0 lbs - 5 lbs. NO EXCEPTIONS.
7. **HEAD SUSPENSION:** The head suspension shall be three fixed nylon web overhead straps of approximately 3/4 inch mounted at opposite points on the impact liner to provide a 6-way overhead strap assembly. The method of mounting of the straps to the impact liner shall be by means of tubular plastic ring, joined by an elastomer tube, locking the straps and ring into an annular groove in the impact liner.
8. **COMFORT LINER:** The comfort liner shall be comprised of a two piece removable foam core laminate system comprised of a soft black flannel material against the users head and a hook and pile (Velcro) type loop material which will be secured to the headband and the ratchet. The comfort liner shall be machine washable.
9. **SIZING ADJUSTMENT:** Sizing adjustment shall be by means of a ratchet adjustment system attached to the sides of the impact line extension tabs by split thermoplastic buttons. The ratchet arms shall be two positions adjustable so that the angle of the ratchet may be set to accommodate the wearers head. The sizing adjustment range shall be size 6 1/2 through size 8, in 1/8" increments.

FIRE FIGHTER TURNOUT CLOTHING SPECIFICATIONS

Page 18

10. **EAR/NECK COVER:** The ear/neck cover shall be provided in the form of a full cut, 19 inch long, 6 inch wide, earflap constructed of PBI/Kevlar blend material that is secured in place with hook and pile fastener (Velcro) to the inside of the impact liner in no less than locations. This earflap shall be removable without interfering with the overhead strap system in any way and without removing any part of the helmets suspension.
11. **CHINSTRAP:** The chinstrap shall consist of three pieces of 3/4 inch wide Nomex webbing which are attached by a quick release buckle system constructed of high temperature, super tough yellow nylon on the left side of the helmet and by a die cast zinc postman's slide buckle on the right hand side. The left hand side short chinstrap section, with quick release buckle receiver, shall be mounted around the impact liner head suspension lock tube in the annular groove of the impact liner. The right hand short chinstrap section, with the postman's slide buckle, shall be mounted around the impact liner head suspension lock tube in the annular groove of the impact liner. The long, middle section, with the insertion portion of the quick release buckle on the left end, shall pass through the postman's slide buckle on the right. The middle section shall be a minimum of 23" in length and the total length of the chinstrap shall be 35" at full extension, end to end, to facilitate SCBA donning. The chinstrap shall be provided with hook and pile Velcro for storage of the loose end while in use.
11. **RETRACTABLE VISOR:** Helmet to include a retractable Defender Visor that offers eye protection and constructed to allow fast, easy raising and lowering of the visor with gloves hands. The visor's exclusive integral design is retractable to allow it to be stowed within the helmet shell to protect it from damage and reduce obstruction. Visor shall be amber Tuffshield.
13. **RETROREFLECTIVE TRIM:** The helmet shall have eight tetrahedron shaped pieces of lime yellow, fluorescent, retro-reflective trim around the exterior of the crown of the helmet shell.
14. **HELMET FRONTPIECE:** Helmets shall include a 6" leather frontpiece on the front of the helmet. Leather frontpieces shall be secured to the front of the helmet with a mounting system including screw attachments to the helmet shell that shall be held in place with a carved raised brass eagle. Specific colors and marking of frontpieces may be as follows and will be specified upon ordering:

Black helmets shall have a black leather frontpiece with red letters on white background. The letters shall say "GERMANTOWN" on the top and "FIRE DEPT" on the bottom. There shall be a removable insert with a sunken, two digit number sewn into it, in the center between the names.

Yellow helmets for Lieutenants shall have a black leather frontpiece with red letters on white background. The letters shall say the rank, "LIEUTENANT", which will be indicated at time of order, on the top, and "GERMANTOWN" on the bottom. There shall be a removable insert with a sunken, two digit number sewn into it, in the center between the names.

Other yellow helmets shall have a black leather frontpiece with red letters on white background. The letters shall say the rank, such as "TRAINING OFFICER" (2 parallel bugles) or ASST FIRE MARSHAL (2 parallel bugles), which will be indicated at time of order, on the top, and "GERMANTOWN" on the bottom. The proper number of bugles, as indicated above, shall be placed in the center. Bugles shall be vertical, gold raised metal bugles.

White helmets shall have a white leather frontpiece with white letters outlined by a red border. The letters shall say the rank, such as "BATTALION CHIEF" (2 crossed bugles), "FIRE MARSHAL" (3

FIRE FIGHTER TURNOUT CLOTHING
SPECIFICATIONS

Page 19

crossed bugles), "DEPUTY CHIEF" (3 crossed bugles), "ASSISTANT CHIEF" (4 crossed bugles) or "CHIEF" (5 crossed bugles), which will be indicated at time of order, on the top, and "GERMANTOWN" on the bottom. The proper number of bugles, as indicated above, shall be placed in the center. They shall be gold metal bugles.

15. **WARRANTY:** Helmets shall be warranted, for the lifetime of the helmet, to be free of defects in material and workmanship when sold. The manufacturers shall replace, free of charge, any such helmets found to be defective. The manufacturer shall guarantee, for a period of five years from the date of manufacture, that any helmet shell will be replaced free of charge if it is damaged beyond use while worn during assigned firefighting activities.
16. **QUALITY REFERENCE:** Example of the helmet desired is the Cairns 1010 Defender helmet with options as noted within specifications, including but not limited to PBI earflaps, carved brass eagle front holder, Tuffshield Defender visor, and Cairns style #23 leather frontpiece.

FIRE FIGHTER TURNOUT CLOTHING

Bid Sheet

Page 1

CITY OF GERMANTOWN FIREFIGHTER TURNOUT CLOTHING BID SHEET

Turnout clothing items must be bid according to specifications. Brand models reflected below meet the specification requirements, however, products of **EQUAL** quality and features will be acceptable if the specifications are met. **A sample product must be submitted for any item bid as an EQUAL.** The City of Germantown will be the sole authority for determining acceptable equal products. Due to the nature of the clothing, one bidder only will be selected for Items A and B. Quantities shown are approximate.

Item Qty Description
A. 21Ea 1. Firefighter Turnout Coat, 32-inch coat length, PBI, per the specifications
 Brand: Janesville Model: Freedom Series Commando, **OR EQUAL**

| | <u>SIZES</u> | <u>SIZE RANGE</u> | <u>UNIT PRICE</u> |
|----|--------------|-------------------|-------------------|
| a. | Small | _____ | \$ _____ |
| b. | Medium | _____ | \$ _____ |
| c. | Large | _____ | \$ _____ |
| d. | X-Large | _____ | \$ _____ |
| e. | XX-Large | _____ | \$ _____ |

Brand: _____ Model: _____

State Warranty: _____

Exceptions to specifications: _____

Optional: Wristlet without thumb hole **Deduct** (per coat) \$ _____

8 Ea 2. Firefighter Turnout Coat, 29-inch coat length, PBI, per the specifications
 Brand: Janesville Model: Freedom Series Commando, **OR EQUAL**

| | <u>SIZES</u> | <u>SIZE RANGE</u> | <u>UNIT PRICE</u> |
|----|--------------|-------------------|-------------------|
| a. | Small | _____ | \$ _____ |
| b. | Medium | _____ | \$ _____ |
| c. | Large | _____ | \$ _____ |
| d. | X-Large | _____ | \$ _____ |
| e. | XX-Large | _____ | \$ _____ |

Brand: _____ Model: _____

State Warranty: _____

Exceptions to specifications: _____

Optional: Wristlet without thumb hole **Deduct** (per coat) \$ _____

3. Additional detachable name patches for turnout coats per the
 attached specifications (No. 29) **Patch unit price** \$ _____

FIRE FIGHTER TURNOUT CLOTHING

Bid Sheet

Page 2

| Item | Qty | Description |
|------|-----|-------------|
|------|-----|-------------|

B. 34pr. Firefighter bunker pants, PBI, per the specifications

Brand: Janesville Model: Freedom Series Commando, **OR EQUAL**

| | <u>SIZES</u> | <u>SIZE RANGE</u> | <u>UNIT PRICE</u> |
|----|--------------|-------------------|-------------------|
| a. | Small | _____ | \$ _____ |
| b. | Medium | _____ | \$ _____ |
| c. | Large | _____ | \$ _____ |
| d. | X-Large | _____ | \$ _____ |
| e. | XX-Large | _____ | \$ _____ |

Brand: _____ Model: _____

State Warranty: _____

Exceptions to specifications: _____

C. 80 pr. Firefighter Boots, 14-inch high pull-on, fabric/leather bunker style boots per the specifications.

Brand: Cosmas Vulcan 14 inch Model: CMF24, **OR EQUAL**

| | <u>UNIT PRICE</u> |
|--------------------------------------|-------------------|
| Firefighter Boots, Full & Half sizes | \$ _____ |

Brand: _____ Model: _____

State Warranty: _____

Exceptions to specifications: _____

D. 67 ea. Firefighter flame resistant protective hoods, per the specifications

Brand: Majestic Fire Apparel Model: P.A.C. II 26 inch, **OR EQUAL**

| | <u>UNIT PRICE</u> |
|------------------------------|-------------------|
| Firefighter Protective Hoods | \$ _____ |

Brand: _____ Model: _____

State Warranty: _____

Exceptions to specifications: _____

FIRE FIGHTER TURNOUT CLOTHING

Bid Sheet

Page 3

| <u>Item</u> | <u>Qty</u> | <u>Description</u> |
|-------------|------------|--------------------|
|-------------|------------|--------------------|

| | | |
|----|--------|--|
| E. | 73 ea. | Firefighter helmets with accessories and markings, per the specifications. 1 Deputy Chief, 1 Technical Safety Officer, 3 Battalion Chief, 13 Lieutenant, 15 Driver, 41 Firefighter. Brand: Cairns Model: 1010CX Deluxe Defender Edition, OR EQUAL |
|----|--------|--|

UNIT
PRICE

| | |
|---------------------|----------|
| Firefighter Helmets | \$ _____ |
|---------------------|----------|

| | |
|----------------|----------|
| Officer Helmet | \$ _____ |
|----------------|----------|

Brand: _____ Model: _____

State Warranty: _____

Exceptions to specifications: _____

NOTE ABOUT FINAL QUANTITIES AND SIZES: For the turnout coats and bunker pants, the quantities shown are approximate and the fitting sizes (chest, length, sleeves, waist, inseam, etc.) are unknown at this time. As part of this bid, the selected bidder must send a representative to measure personnel for the proper size and fit. Bid prices must include all fitting charges. All Items shall be delivered by January 15, 2012.

Attach additional sheets or manufacturer specifications for exceptions or proposed equals.

Prices quoted must be effective for at least 120 days.

All prices must be quoted F.O.B. Germantown, TN.

Company Name

Signature

Prices Effective Until (Date)

Print Name & Title

Telephone Number

Facsimile Number